ning Time in Various States-The Officer Bill Palls to Pass in Massachusetts-Shin secork and Its Oysters Issak Walton's Lodge at the World's Pair-Glant Yellow Ferck-Increase of Grayling to Michigan New Rod and Gun Clubs Stocking of Pennsylvanian Waters-Illinois's Covernor and Fish Commissioners-Colorings of Tront Oregon's New Game and Fish Warden-Mongolian Pheasants for Illinois-Lack of Uniform Game Laws in Various States-Photographs of Birds in Flight.

The trout season is now open generally throughout this State, except in the waters of lake George, where the date is deferred to May 1. Anglers who visited Long Island on April 1 had an ideal day for trouting—warm, with a light southerly wind. In the preserves rout were taken, but in the open waters the eatch was insignificant. In the autumn, when the trout on Long Island ascend the streams to spawn, some runners out after ruffed grouse and rabbits do not hesitate to shoot them. There is no question that anglers are endowed with a far higher esprit du corps than is the average gunner. There resides a refining infuence in the angler's beautiful and delicate equipment, whereas a gun in the hands of the average man appears to beget a spirit of utter wlessness.

The season for salmon trout and land-locked salmon in this State will open on the 1st of Black and Oswego bass may be taken after the 30th of May, except in Lake George. where the close season is maintained until Aug. 1. In Black Lake, St. Lawrence county, these fish may be taken as early as May 5. A law forbidding the taking of black bass until July I would be a wise one. In June many of these fish have not ceased to spawn. The season for wall-eyed pike, yellow bass, and pike

these fish have not ceased to spawn. The season for wall-syed pike, yellow bass, and pike in the Susquehanna River and its tributaries, will open on the 30th day of May. Trout of any kind, salmon trout or land-locked salmon, eaught in any of the inland waters of this flate, shall not be transported to any point within the State from any of the counties thereof, or possessed for that purpose, except when accompanied by the owner. It is also unlawful to take a black bass less than eight inches in length. The open season for muskallong commences on the 30th of May.

In connecticut the trout season opened April I with a bitter controversy between the fishermen who had stocked some of the streams with fry from the State hatcheries and the lessees of the waters. In Connecticut the season for black bass will open on June 10. The laws of that State are rigid in regard to trespass, and analers who may visit it will do well to maintain an attitude of excessive reserve toward all posted streams and lands; moreover, no State in the Union is more copiously equipped with local fishing laws.

The Legislature of Pennsylvania is now engiced in framing a new fish and game law, which, however, may not be parsod. The season for trout in Pike county will open on May I, and that for pike and pickerel on June 1, blaswhere in the State the trout season commences on April 15. The close season for lake trout is in October, November, and December, Bass, pike, pickerel, and Susquehanna salmen, may be taken after June 1. No black, yellow, or green bass may be killed under six inches in length, nor a trout of less than five inches in length, nor a trout of less than five inches in length, and rout less than five inches in length, is forbidden. There are local laws which and you gratellar ponds and streams which and you gratellar ponds and streams in length. Is forbidden. There are local laws which and you gratellar ponds and streams which and you gratellar ponds and streams when handy to particular ponds and streams.

and black bass and white perch on July I. The taking of a land-locked salmon less than nine inches, and a trout less than five inches in length, is forbidden. There are local laws which apply to particular ponds and streams. The season for speckled trout in Ontario. Canada, will open on May 1; pickerel, May 15; has and muskallonge, June 15. One person is not allowed to take more than fifty speckled or brook trout in a single day, nor shall these shin the aggregate weigh more than fifteen pounds, nor a fish less than five inches in length. The season in the province of Quebec opens for speckled trout May 1; for gray and lake trout, winanish, and land-locked salmon the season is now open. Bass and muskallonge shall not be caught between May 25 and July 1; lekerel, likey 15. Non-resident anglers must procure a liconse to fish: the lowest limit of the fee to be paid for the same is \$10; moreover, the license is only valid for the time and place indicated therein.

The notorious Gilbert bill has not been enarted by the Massachusetts Legislature. The Seaste has so far refused to pass it to a third reading. The object of this statute was to permit the sale of artificially reared trout during the months of February and March. This has aroused the unanimous opposition of the anglers of the State. Some of the Senators in favor of the passage of the bill indulged in rayor of the passage of the bill indulged in curious statements. Among others, Senator Dame of the Third Essex district, who stated that wild trout feed upon much disgusting food, while the artificially rearen sort partake of the same nutriment as the people of Massachusetts. This is sawing very little for the epicurean tastes of the inhabitants of that State, inasmuch as the cultivated trout are fed upon raw liver. It may be that this diet is varied by one of pork and beans, in which case the remarks of Senator Dame are san ample the remarks of Senator Dame are an ample istification of the formula, which, in his opin-ion, imparts to the artificially reared trout a flavor so far superior to that of the wild sort.

The destruction of the flood gate in the canal connecting Shinnecock and Peconic bays on Long Island, is a disaster the extent of which is only appreciated by the fishermen and growers of oysters in the first-named sheet of water. The saline infusion which has flowed through the canal from Peconic Bay has pro-duced a quality of bivaive in Shinnecock which is superior to that grown in almost every other bay or estuary of the Union. Early in the season The Sun called attention to the extraordinary merit of these oysters, with the result that they secured immediate popular favor. The shinnescek oyster is noted for the needliar color of its flosh, which is a light saffron. Moreover, it is endowed with a remarkable firmness of texture and delicacy of favor, chalities which are due to peculiar local conditions which exist nowhere else.

The Legislature of this State has been most liberal in the appropriations in aid of the Shinnescek Canal, an excavation only a lew hundred yards in length. The work, however, has been utterly botched, and for the sums expended the ditch should have been guarded against the disaster which has overtaken it. Through the destruction of the flood gate, the movement of sand by the action of the tides is forming shouls, which, unless speedily dredged, will result in the closing of the canal and the speedy destruction of the fish and oyster industry of Shinnescek. bay or estuary of the Union. Early in the

It is probable that anglers who may visit the Chicago Exposition will have an opportunity to inspect an exact reproduction of the fishing lodge of Izank Walton and Charles Cotton. This enterprise is to be undertaken by the Chicago Fly Casting Club, which will secure a suitable site near the Fisheries Building. The lodge was originally built on a peninsula around which flowed the river Dove, a short distance from London. It was erected by Charles Cotton for the convenience of Izaak Walion and other anging friends. It is a small square building of stone, with a peaked roof covered with siste or tiles. Above the door is the inscription "Piesatorbua Sacrum" (Sacred to Angiers), and the date, 1974, a visitor to this structure in 1784 describes it as consisting of a single room inside a cube of fifteen feel, that was paved with black and white marble it contained a black marble table, supported by stone feet. The room was walnesoted to the ceiling in square panels, the larger ones being decorated with paintings of neighboring scenes, in which figures of anglers are introduced. The smaller panels represented tackle and implements for angling. It was provided with a fireplace and a buffet with folding doors, thereon were portraits of Charles Cotton, Walion, and a servant in the dress of the period. Those were also representations of rout and grayling. In 1784 the building was is an indifferent condition. Its destruction was inevitable, when the Beresford-Hope family restored it to the condition in which it existed when occupied by Cotton.

There is no angler so wise and experienced suitable site near the Fisheries Building. The

There is no angler so wise and experienced that on occasions he can afford to dispense with the advice of fellow fishermen. One such a correspondent of THE SUN. who for the past two or three seasons has attempted in vain to take with the rod some very large yellow porch which are known to exist in a pond porch which are known to exist in a pond near his residence, has recently received from a fellow angler, who has made a study of the habits of this fish, some points which may guide him and others in luring to the hook these exceptionally large perch. The person whose exceptionally large perch. The person whose avivice was sought says of them that they school, but not with the smaller sart. Often one may be found, solitary and alone, with the Mack bass. In Schroon Lake and other waters it is not unusual to find a school of hir vellow perch, which readily take the minnow. No one has been able to understand why the big perch flock by themselves. They appear to be rovers, perhaps privateers, and when one is taken there is no sign of others. Possibly they may

It will be agreeable news to the lovers grayling fishing to have the assurance that this fish is now more abundant in Michigan waters than for many years past. This has down the streams. This practice scraped and ploughed the spawning beds of the grayling. and well nigh extinguished the species. For the past two or three years logging has ceased in most of the Michigan arreams, the logs being transported to the mills by transways which traverse the pine forests. Last year in Figeon River some fine takes of grayling were recorded. The season opens in Michigan on the 1st of May. While it was known that logging was most destructive to grayling, it was also supposed that excessive fishing had much to do with their growing scarcity; but since logging has ceased, the great reproductive powers of the grayling has demonstrated that it is capable of holding its own against the depletion incidental to takes with rod and reel. The best rivers in Michigan are the Pigeon, Manistee, Riffs, Hersey, Jordan, Muskegon, Boardman, and Au Sable. the past two or three years logging has ceased

Each recurring year increases the obstacles which beset the angler in Northern waters in his search for fishing grounds where he may be reasonably sure of obtaining satisfactory re-sults. These difficulties have given a very great impulse to the formation of clubs which secure, by purchase or lease, the control of desirable streams, ponds, or lakes. To-day there are few unposted trout streams available to the general public in Connecticut, while in the Adirondacks a similar condition of affairs is fast culminating. A single instance among many of this tendency is found in the case of the Adirondack League Glub, whose preserve covers an area of 175,000 acres. Within these limits, situated in Hamilton and Herkimer counties, the property of the club covers forty miles from its western to its eastern boundary and over twenty-five miles from that of north to south. Within this area are twenty-five lakes and numerous notable trout streams. The club maintains its own hateheries for restocking depleted waters. In addition to the fishing resources of the club, its preserves are well stocked with game, which is carefully protected. No floating or jacking of deer is permitted within its boundaries, nor are does killed at any time. What the ultimate effect of the acquirement of these vast tracks by close corporations simply for purposes of sport will be upon the future of a growing population is generally answered by stockholders in these cluis with the scriptural quotation. "Sufficient unto the day is the vit thereof." desirable streams, ponds, or lakes. To-day

The interests of fishes are accorded a far wider recognition than are those of game. An instance in point is revealed in a recent adinstance in point is revealed in a recent address of Henry C. Ford, President of the Board of Fish Commissioners of Pennsylvania. Mr. Ford, in comparing the work accomplished in 1802 as contrasted with 1802 astates that in the former year 50,000,000 of pike perch, 15,000,000,000 of white fish, 4,000,000 of rout and other game lish, and 0,500,000 of rout and other game lish, and 0,500,000 of rout and other placed in the Pennsylvania streams, as compared with a total of only 1604,000 of all sorts in 1882. Although the hatcheries at Allentown and Corry have been doubled in capacity, and though worked to their fullest extent, they cannot begin to supply the demand. Of the applications for trout fry fully 190 per cent. come from the farmors living upon the line of the brooks. An inter-state law has been passed by Pennsylvania and New Jersey protecting the Delaware River. Through the operation of this the value of the catch of shad in that river has increased from \$81,000 in 1882 to one of over \$500,000 in 1802. This has been accomplished by the enforced removal of over 500 fish weirs or celhaskets in the Delaware between the New York State line and Trenton. A law is now before the Pennsylvania Legislature permitting the resistablishment of these traps. Should it be enacted Mr. Ford predicts that the catch of shad will immediately commence the different pennsylvania on their shores prolonged through the removal of the elements of pollution therefrom. dress of Henry C. Ford. President of the Board

As an offset to the progressive policy of Pennsylvania. Gov. Altgeld of Illinois has sen a message to the Legislature of that State urging the abolition of its Fish Commission. The Chicago correspondent of Forest and Stream is indignant at this proposed action, and shows how upon an annual expenditure of only \$7,000 the Fish Commission of Illinois has planted more fish, three times over, than any other State in the Union; that had it not been for its efforts the white fish of the great lakes would be extinct and the fisheries of the lakes discontinued. It is not probable that Gov. Altgeid's recommendations will receive favorable consideration. a message to the Legislature of that State

The coloring of trout is subject so much to the nature of their environment and the the nature of their environment and the abundance and variety of food at their command that one may easily detect the conditions under which they live and thrive by the duiness or brilliancy of their tints. A poorly fed lish will have few or no spots, a drab beily, and duil yellow sides. A very old trout will have the same hue: in addition he will be lean and large-headed. Young, healthy, fastgrowing trout may be detected by their silvery sides, white belly, and numerous and highly colored spots. It is asserted that the color of a trout's back depends on the color of the bottom of their very stream in which ho lives. Of them all, however, trout which have access to sait water possess the most dazzling silver tints, owing to the variety and abundance of food at their command.

The Oregon legislature recently authorized the appointment of a Game and Fish Warden. with an annual salary of \$2,000 and \$500 for travelling expenses. The new official, Mr. H. D. McQuire, has already caused the arrest of a number of dealers of Portland, Oro., for offering for sale during the close season steel-headed and Chinook salmon. These fish had been kept in cold storage. Mr. McQuire is now preparing to open the campaign against these refrigerator establishments. In so doing it is to be feared that he has taken hold of the hot end of the poker. Although in the Phelps-lineby case in the State of New York it was decided that the storing of game in cold houses and its sale during the close season was illegal, the industry, far from being crippled by the decision, is in a more flourishing condition to-day than ever. The cold storage of salmon on the Pacific nas attained to such proportions, and is equipped with such ample linancial resources, that the effort to cripple it by any legal proceedings can only result disastrously to Mr. McQuire. This is not as it should be; none the less, it is a cold fact. with an annual salary of \$2,000 and \$500 for

The interest excited in the proposed introduction of the Mongolian pheasant east of the Rocky Mountains appears to be growing. The Mongolian Pheasant Association is an organi-zation which has recently been formed at Helleville, Ill. At a cost of \$140 eight pairs of these birds were procured from Oregon, and have been liberated in chosen localities. It would be interesting to know how the Mongo-lian pheasants which were liberated in Living-ston county, this State, have withstood the cold of the past winter.

A few large yellow legs, the advance skirnishers of the flight of bay snipe, made their appearance on the Long Island coast on April D. These birds enjoy a close season on that is and during the spring mouths. New Jersey does not protect them at that season. Upland plover may not be killed in that State at that time; jack snipe only during the months of March and April. Reed birds, raits and marsh hens may not be killed in the spring, but no mention is made of any bay snipe. They are not protected either in Rhode Island, Massachusetts, Maine, or New Hampshire. The absence of a uniform law affecting equally all of these coastwise States as regards the killing of bay snipe during the spring, renders almost nugatory the probibition on Long Island coast. During the advantage of the States further east, whose gunners reap the advantage of the temporary security which the birds enjoy during the pauses of their flight along the Long Island coast. During these halts the integrity of the flocks is maintained, and they acquire a certain amount of confidence and gentleness which render them all the more facile victims to the Beanceters and Blue Noses of the East.

The photograph of a pinnated grouse in

The photograph of a pinnated grouse in Inc. photograph of a pinnated grouse in flight, made by Mr. Edward F. Hardy of Massachusetts, was accomplished under conditions which would necessarily preclude complete success. The bird was too far distant and its flight too rapid to permit of any clear delineation of the motion of the wings. The different properties of the motion of the wings. The effect of this mechanical action is reproduced in the picture in the form of blurred rays proceeding downward from the body of the bird. Some attempts made in Germany to photograph the action of the wings of birds in flight that we been very successful, netably in the case of the slow moving species, like the stork. The revelations made by these photographs show how completely the artist is attault in his representations of the action of the wings of birds in flight. It may be said that a photograph of wild ducks dropping to the decoys would probably reveal the absolute faiseness of the pictured delineations of fowl under those conditions. This would be a far easier task than to photograph the flight of a pinnated grouse, masmuch as a wild duck, when a monast at a halt over the decoys, offers ample opportunity for the instantaneous operation of the camera. Such a photograph would probably reveal how inequal is the human eve to the task of correctly recording the simplest mechanical movements of the wings of birds, even at the moment when all motion has apparently ceased. flight, made by Mr. Edward F. Hardy of Mas-

MISERY BEFORE DINNER. ELEVATED TRAVEL A CAUTION IN THE CROWDED HOURS,

The Army at the City Hall Station—The Mocking Girls at Canal Street—The Hu-man Wedge at Grand Street—200,000 Martyrs—How Best to Manage the Crowd

All down-town New York turns its face to the north as the sun sets, with one idea-dinner and how to get to it quickest. There are two practicable methods of getting up town. the surface cars and the elevated roads. The surface cars being slow, and celerity being the object, but few will take this mode of travel, and so it happens that 300,000 people daily are carried up town in trains that are not fitted to carry half that number in comfort. The average New Yorker will endure considerable personal discomfort before he will grumble. but the crowds on the elevated roads are daily growing worse, and the unhappy people who depend on this means of travel in to be called the "commission hours," between half-past 4 and 7 in the afternoon, are now beginning to realize that some radical and immediate reform is necessary.



The rush is well on at about 5 o'clock. By that time all the great office buildings are pouring their thousands into the already filled streets. Everybody is hungry and everybody is in a hurry. The elevated railway stations are the objective points. For those on the west side the Cortlandt, Rector, Park place, and Chambers street stations-and also the Battery place station, for those who are wise enough to go down there and get a seat in the train-are the gathering points for the west side clans. Beyond Chambers street not only are there no seats left, but the chances are against one's getting on the train at all. At every station crowds throng the platform, and when the train pulls in almost before the guards can open the gates the line has burst into the cars and is racing for the seats.

Here is true democracy. Bootblacks hustle millionaires. The fortunate clerk who has seeured a sent by extraordinary agility may sit and grin at his less lucky employer, who is clinging to a strap and swaying dismally to and fro as the train sweeps around the sharp curves. It is a contest in which every man starts even, and skill, strength, and push win, the prize being a seat. Even the superior and severe guard occasionally gets hustled in the

The cars are filled up until the interior looks like a box of sardines arranged perpendicularly; then, when every available spot is occupied, there are still hundreds waiting on the platforms who will have to wait for another train. He is a fortunate man indeed who can evolve himself from that mass in time to get out at his own station. This is on the Sixth avenue line, where the

crowd is divided into a number of distinct masses, each one in possession of some one station. On the east side the forces are con-centrated at one point, the City Hall station.



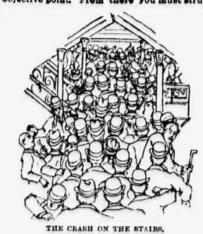
THE RUSH AT THE CITY HALL.

A blindfolded man could start at the junction of Park place and Broadway and get safely into a City Hall up-town train by simply allowing himself to be carried along by the crowd. If you are desirous of going up town by the Third avenue elevated road, there are certain directions that you will do well to follow. In the first place, when you reach the foot of the stairs seize the railing with both hands and hang on. Then work your way slowly upward. There will be a perfect torrent of hurrying hu-

directions that you will do well to follow. In the first place, when you reach the foot of the stairs selze the railing with both hands and hang on. Then work your way slowly upward. There will be a perfect torrent of hurrying humanity coming down, and as the force of gravitation is all in their favor, it will be politic for you to dodge as much as possible. Therefore, squeeze yourself close to the friendly railing and hang on. You will be buffeled, pushed, thumped, and may be jumped on. You haven't time to stop and remonstrate. Just hang on with this precept in your mind, that if you let go that railing for a moment you will probably find yourself in very short order in the middle of the street from which you have just come. You will find it a matter of some difficulty to get a ticket. Keep to the wall and wait patiently. It may be some time before you reach the window.

This is the time chosen by all the cranks to delay traffic. There is the woman with the Canadian quarter, the man with the plugged nickel, the crank who insists on stopping to ask the ticket seller questions, and the countryman who wants to know if it's dangerous before he embarks. When these have been satisfied or pushed on you will have your chance. It is to be hoped that you have a niekel, because if you hand in anything larger you will probably get your change in pennies, and the crawd behind will say unpleasant things while you stop to rake in the coppers.

As you go through the gates an extraordinary sight opens before you. An immense crowd is rushing toward you from up the platform. The crowd winds out of two trains, one on each side. You feel a conviction that nothing less than a stone wall could stop that column. Down the platform it comes, almost to the ticket chopers, then suddenly it splits, as a swit current is divided by a ledge of rock. One part swerves to the right and the other to the left, the dividing point being a small man in uniform, who is jumpling up and down, with incoherent how is and wild gesticulations. If you think



THE CRASH ON THE STAIRS,

gle and bunt and push your way to your train. If you can find a big, broad-shouldered man, wait for him and keep close in his wake. If you are determined to go through by your-self, here are the rules: Left shoulder to the front, head up left elbow well up and on guard in front of you, throw your weight well to the front, assume a savage expression, and go ahen!. Eventually you will reach the train, probably in amuch berumpied condition.

The chances are very strongly against your getting a seat. You will make your journey standing on your feet, and you will have a mighty lively time keeping other people from standing there, too. The choice of two evils is now open to you. You may stand inside the cur and have no air to breathe, or you may stay on the platform or secure a position in the doorway, where you will be crumpled and

havied back and forth by the incoming and origoing strugglers. On the whole, the latter choice is the wise. You may be able to dedge the crowd, but there is no way of dedging suffocation. Presently, when the cars are all prought to the condition of the Black Hele of Calcutta, the guard slams the gate as best he can and the train starts off.

Most New York crowds are good natured, but these U o'clock elevated road crowds being hungry and miserable are not. Everybody feels quarrelsome. A man inside turns to another and says:

Most New York crowds are good natured, but these to o'clock elevated road crowds being hungry and miserable are not. Everybody feels quarrelsome. A man inside turns to another and says:

"Your elbow feels very uncomfortable sticking into my side, sir."
Atany other time the man speken to would probably apologize, but now the evil spirit of the elevated train is upon him.

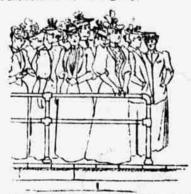
"Wynheldonchermoeer" he Inquires explicitly. "You're taking more room now than three ordinary men. If you don't like my elbow you can get out the way. There ain't any other place to put it."

Then the two men glare at each other viciously, and there would probably he a fight if both weren't so jammed in that they can't get their arms into play.

"Cham square" bawis the guard in his peculiar diatect. "Change fer Second avnoo! dittout the door! Le'm gestout first. Clear the doorway! All board!
A long line stands waiting. They attempt to push in and are repulsed by the gateman. Then they wait while a woman laboriously struggles out from inside followed by two men. Two dozen people dive simultaneously for the seals thus left, and there is a pretty mix up. The line on the platform make frantic efforts to get on the car, but only a few succeed.

"Inal stree nex!" howks the gateman as the train pulls along. As the train pulls in at the Canal street station a spectacle worth seeing is presented. From the edge of the narrow platform to the rail every inch is occupied. This crowd looks like a flower gardsn. for it is made up chiefly of girls who wear the train pulls along. As the train pulls in at the Canal street station a spectacle worth seeing is presented. From the edge of the narrow platform to the rail every inch is occupied. This crowd looks like a flower gardsn. for it is made up chiefly of girls who wear the train pulls along it is a structure of the mare pretty, and all of them are 'dead fly. as they themselves would say. Thoy are going far up town, and, having stood all day in stores or factories, they propose to have a seat on their way, home

as she sees victory in her grasp.



AT CANAL STREET WAITING FOR A TRAIN. "Madam," he says, politely, "I'm sorry to trouble you, but would you mind standing on my other foot for a while? That one's getting very tired."

trouble you, but would you mind standing on my other foot for a while? That one's getling very tired."

The other passengers are mean enough to laugh, and the pretty girl turns red, but she isn't beaten yet. She hangs on ton strap in a lime, despairing sort of way, and pre-ently looks as if she were on the verge of sollapse. Suddenly there is a joit and a awaying of the ear. The girl drops the strap and abruptly sits down in the young man's ly.

"Scuse me," she observes in a die-away voice. "I got shook off that strap."

"Certainly." he says, and looking up observes with despair that a man who had hitherto been hanging to another man's contralls had possessed himself of the desprise strap. The girl shows no signs of moving, and, in fact seems very well content where she is. Giggles from these near by force themselves upon the young man's attention. He becomes very red in the face. Finally he is unable to stand it any longer.

"Won't you have my seat?" he says, politely, but with an undertone of murderous worth in his voice. As he speaks he manages to wriggle out from under the girl, who, with a sigh of satisfaction, sinks into the seat.

"Thanks." says she, sweetly. "Don't care 'f I do. That is, 'f you're through with it." And the other passengers laugh once more. Somehow it happens that before the trip is over the anger has died out of the young map's face and he and the girl are talking together in very friendly tones. It is strange; but, as has been said, she is a very pretty girl.



ALWAYS ROOM FOR ONE MORE.

ALWAYS ROOM FOR ONE MORE.

The passengers' enjoyment of this little episode is short-lived, for Grand street comes next, and with it severe suffering. It is characteristic of the Grand street station crowd that it will come in whether there is room or not. There is in vogue there a very ingenious football rush contrivance. The applicants for positions in the train form a sort of wedge. The station men get behind it, and when the car gate is opened the wedge plunges forward. The guard on the train hauls and the station men from behind shove, and by a miracle of compression the whole crowd is jammed in, and the train moves off to the greans and gasps of the victims inside.

The worst is now passed. At Ninth street a few get out and a few get on. Then the crowd gradually grows less. You may possibly find a seat by the time you get to Twenty-eighth street, if you are lucky and agile and ready to jump for it, as you did for the chairs in the old game of "Going to Jerusalem." when you come to get off you will find yourself hot, rumpled, bruised, with trodden feet and mussed-up clothes, and, in view of the fact that 300,000 other men are in the same condition as yourself and go through the same sufferings six days in the week, you will, if you are a good citizen, hope and pray for the day that shall see rapid transit an accomplished thing.

It Looked Like Ontment.

Prom the Lucion Training Journal.

In a college boarding house Friday evening after toes were thawed and fingers unbenumbed, they told this:

Two girls have recently come to Batas to board themselves and discuss conic sections and the ablative absolute. They took rooms where two girls lought it out a year ago. They cook and they eat there, and they study there, and they don't go out nights, and they don't go out nights, and they don't any discorge, dear. They just eat to live and live to learn.

In the pantry the departed girls left some paraphermalia for their successors. live to learn.

In the pantry the departed girls left some paraphernalia for their successors.

"I'd like some outment," said one of the girls last Wednesday.

"There's some in the pantry that Mamie and Susie left," said the other.

They cooked and they ate it. It went down hard. It didn't seem superlatively grood.

"I-1." gasped one of the girls. "I don't think this is real good, do you?"

"No." said the other, doubtfully, "but you put lots of milk on it and it goes."

It went. Next day they saw the other girls.

"We are indebted to you." said they, "We are indebted to you." said they, "We leave outmeal? I guess not sissy," said they, "We leave outmeal? I guess not sissy," said they, "We left nothing eatable."

"Why, what was it then?"

"Why, that stuff in the brown paper parcel on the second shelf, way back? Quick, what was it?"

"That! Why, you never ate that! What! Why, that was bran and sawdust that dear old ma sent us some eggs in."

Two girls looked hale and wan. One said:

"I thought—bah!—I thought it tasted tooh, shiver)—awful chippy.

The other said:

"Girls, I've got it."

"Got what?"

"Appendicitis," said she.

Appendicitis," said she,

THE LIVINGSTONE GIFTS.

THEY REACH THE TOWN IN AFRICA WHERE THE GREAT MAN DIED.

Chief Chitambo, for Whom They Were Intended, Is Dead, and They Are Olven to Mis Successor-A Bronza Tablet Natled to the Tree Under Which the Heart of the Great Explorer Was Burled,

Dr. Livingstone died near the southern shore of Lake Bangweolo in May, 1873. The chief. Chitamto, to whose village the dying explorer's servants had brought him, was very kind to the little party, and after the death of the great man supplied them with food, permitted them to embalm the pody, and then to remove it from his country. Dr. Livingstone's heart was buried under a large tree in the village.
In January, 1880, the Royal Geographical Society of London voted a sum of money to

buy presents for Chief Chitambo in recognition of his kindness and the ready permission he gave for the removal of the great traveller's body. Not a few African chiefs have a superstitious horror of permitting a human body to be carried from or through their territory. To the fact that Chitambo was superior to this superstition is due the presence of Dr. Livingstone's body in Westminster Abbey to-day. Here are the circumstances that entitled

Ingatone died. At the left is the circular shockeds which was built around the body while it was being embalmed. Under the large Myula tree in the centra the great man's heart was buried. Jacob Wainwright, one of Livingstone's men, carved upon it the name of the Dector and the date of his death. Two years ago, when Joseph Thomson visited that region, he was unable himself to reach the spot, but sent some of his men there. They found the tree still thriving and the inscription upon if, and, without orders from their leader, they brought tack with them the back on which asveral letters of the inscription were carved. This relic is now in the possession of Dr. Livingstone's scryants requested Chitambo

This relic is now in the possession of Dr. Livingstone's daughter at Edinburgh.

Livingstone's servants requested Chitambo to keep the grass cleared away in order to protect the tree from the bush fire which annually sweep over the country and destroy many trees. They gave Chitambo a large the biscuit box and some newspapers to serve as evidence to all future travellers that a white man had been at his village. The chief promised to de all he could to keep the tree from being harmed, but added that he hoped the English would not be long in coming to see him, because there was always danger of an invasion of his Mazliu enemies. If they came he might have to flee, and the tree might be grave would be lost.

The money voted by the Royal Geographical Society was intrusted to the fley. F. S. Arnot of the Garenganze mission in Contral Altrica, who is now in England and will soon visit America, it hoped to be able to convey to Chie Chitambo the presents consisted of cloth and other articles, including a double-barrelled gun and ammunition. The cloth consisted of Sist handwerbiefs, eight pieces of well-yet, and five pieces of silk, the whole costing in London \$145. On the arrival of the goods



Chitambo to the gratitude of all friends of Dr. Livingstone.

When he died his servants determined it possible to keep the fact from Chitambo, for otherwise they feared that a heavy fine would be isflicted as compensation for the damage done the country by the death of a white man there. This fine might so greatly cripple them that they could not pay their way to the coast. They decided that come what might the body must be borne to Zanzibar. They therefore determined, if possible, to secure a hut some way from Chitambo's village in which they might carry out the necessary preparations.

Chuma, one of the best known of Livingstone's sorvants, went to Chitambo and told him they wished to build a place outside the village, for they needed more room. He readily gave his consent. Soon after, however, two of Livingstone's carriers divulged the secret. The chief was informed of what had happened, the sent for Chuma and said to him:

Why did you not tell me the truin? I know that your master died last night. You were afraid to let me know, but do not fear any longer. I, too, have travelled, and more than once have been to the coast. I know that you have no bad, motives in coming to our land, and death often happens to travellers on their journeys."

The Livingstone's Faithfuls told him what tiesy desired to do. He acquiesced in their yourneys."

The Livingstone's Faithfuls told him what tiesy desired to do. He acquiesced in their wish to remove the body from the country, and assisted them in every possible way. Upon their return the men spoke on all occasions with gratitude of Chitambo's conduct, and said that he was a fine generous fellow. He

and death often happens to travellers on their journeys."
Then Livingstone's Faithfuls told him what they desired to do. He acquiesced in their wish to remove the body from the country, and assisted them in every possible way. Upon their return the men spoke on all occasions with grafitude of Chitambo's conduct, and said that he was a fine, generous fellow. He himself suggested that all honors should be shown to the dead. The customary mourning was arranged, and the chief and his people participated in the ceremonies.

Our picture shows the village in which Liv-

One of the latest mechanical improvements in metal working is a system of rolls for wrapmuch stronger than a solid piece of the same size. The reason assigned for this additional degree of strength is the simple fact that, if the outside layer of metal is broken the inner the outside layer of metal is broken the innor layers are intact and will resist further strain, while in the case of a plece of solid steel the rupture of the skin is fatal. The seame in these wrapped bars are said to be scarcely apparent to the naked eye, only appearing when the metal is bent over and twisted off, which, of course, requires a great amount of force. The advantage of using these wrapped bars under certain conditions will be better understood and suprecised when it is considered that and appreciated when it and appropried when it is considered that steel irequently bears a stronger resemblance to a refined, ductile cast iron than to a fibrous wrought iron, and partakes so largely of the character of cast iron that a small scratch on its surface may cause serious trouble if the piece is solid and exposed to vibratory strains.

The new French substitute for porcolain, in the production of which asbestos is employed. is coming into use in France, and with advantage it would seem, for certain purposes. According to investigation, the fibres of asbestos are exceedingly fine, their diameter varying between .00010 millimetres and .0002 millimetres, and consequently an exceedingly fine powder can be obtained from these, and the suggestion was natural, therefore, that, if it were possible to amalgamate these small particles without the addition of any foreign substance, a material could be obtained which would be porous in nature, the pores, however, being so fine as hardly to be visible under the microscope. This product is the result of pulvérizing the asbestos, a process which is rather difficult with the use of the ordinary mortar, but comparatively easy when suitable apparatus is employed. From this powder a paste is made by mixing with water, and this paste is kneaded diluted with water, dried and knoaded again, and then moided into the desired form. By heating the objects in a crucible to a temperature of 1.700° C., a porcelain is obtained with a translucency comparable to that of ordinary porcelain. If it is heated for eighteen hours at a temperature of 1.200° C., then the porous asbestos porcelain is obtained of a light yellow or white color, if care is taken to wash the asbestos powder with sulphuric acid. between .00016 millimetres and .0002 milli-

separating as practised at Leadville, affords an example of the simplicity and thoroughness with which the precious metal is now handled in making ready for the market. Separate piles of ore and lead are made, to supply the furnaces when needed, and account is kept of the different mixtures and the weight from each required to constitute the furnace charge. About 800 pounds of ore, 150 pounds of ime. 200 pounds of slag, and 150 pounds of coke, contribute to make up a charge, this, of course, varying in accordance with the character of the ore, and each furnace will treat from one hundred and fifty to two hundred tons of those charges in twenty-four hours. The lead in the mixture, when treated in the furnace, runs down into the bottom, carrying with it the precious metals: the slag, being lighter, floats on top of the lead and is taken off through stap hole: and the lead, or rather the bullion, is dipped out of a well in the side of the furnace and poured into moulds. After scoling the bars are taken out and sampled, a hollow punch heing used that brings out a small core; it is usual, for convenience, to sample the bars in lots of three hundred each, and the punchings of each lot are assayed.

An additional as well as important utilizaweight from each required to constitute the

An additional as well as important utilization of dolomite just now is noted. It is well known that magnesia, owing to its infusibility, has come into very extensive employment as a lining for converters used in the basic process of steel manufacture, but, owing to certain drawbacks in the preparation of magnesite for this purpose, resort has been had nesite for this purpose, resort has been had with success to dolomite, which is a double carbonate of lime and magnesia. In order to render it serviceable in this line the calcined dolomite is mixed with chloride of magnesium, the chlorine in which separates from the magnesia and combines with the lime, yielding a soluble calcide chloride which can readily be washed out, leaving behind the insoluble magnesia. According to another process, the calcined dolomite is treated with dissolved sugar, leading to the formation of sugar of lime, and depositing the magnesia; the solution of sugar of lime is then exposed to carbonic acid gas, which separates the lime as a carbonate, leaving the sugar ready for refuse. Both these systems of producing magnesia have the ad-

contributions in this line, though differing in his views to a considerable extent from those entertained by some other authorities. Thus, in the relation of projectiles hurled from the earth's surface, he argues that a body thrown toward the sun would simply fall upon it, and a body cast in the opposite direction from the sun would penetrate far into the depths of space. If, by any exceedingly rare chance, the same path was not being traveraed by Jupiter. Saturn, Uranus or Neptune, thus modifying its course; at its return, however, it would be attracted by the entire solar system instead of by the sun alone, and would come back toward the point of the terrestrial orbit whence it started, this happening at each revolution, as long as the earth was not encountered to arrest and terminate its career. Flammarion is also of the opinion that, if the earth for nerly had volcances canable of throwing out such projectiles, they all, whatever their number, return and cross the terrestrial orbit at every revolution, and they reach it with the velocity of comets and shooting stars, that is, with the velocity caused by solar attraction added to their own velocity—in a word, not simply with the effectuar velocity in a word, not simply with the effectuar velocity in a word, not simply with the effectuar velocity in a word, not simply with the effectuar velocity of the earth's annual revolution about the ann. 21,500 metres a second, but with an alliptical velocity having a maximum limit of 41,700 metres.

Not many improvements are recorded nowadays in the manufacture of matches, but it has lately been proposed to substitute for the ordinary article a novel kind of paper arrangement described as resembling in its general construction the folicit tape measure used by tailors. The coil thus employed is a roll of parafflined paper enclosed in a metallic case, one and of the paper projecting after the manner of the tape measure, and at regular intervals on the paper are small points covered with an igniting substance. In practice one has only to give the end of the paper a smart pull, bringing the igniting point is contact with a small steel plate, and a light is struck which burns slowly and evenly, and, on the roll being thus exhausted from use, a fresh one can be inserted in its place. Matches of this description can be insulated at very small cost. ordinary article a novel kind of paper arrange

AMERICA ALL RIGHT!

THE QUATTLEBAUMS ARE FOUND The Military History of an Illustrious Bace, na Told by a Quattlebaum.

To THE EDITOR OF THE SUN-SIT: In your paper of March 24 you ask: "Where is the great Qualtiebaum?" meaning Gen. Paul Quattlebaum of South Carolina. He is dead. He was born on July 8, 1812, and died, full of years and honors, on Oct. 18, 1800. His was a remarkable career. Highly self-educated. upon reaching his majority he raised a company and commanded it through the Seminole war. Upon his return to South Carolina he was elected Colonel, and soon after succeeded Gov. Hammond in the command of a brigade. serving in the military about ten years. Thence he served in the House and Senate continuously for about eighteen years, and closed his official political career with the Secession Convention of South Carolina. He was too old, and enfeebled by an accident, to accept a field office of high rank which was tendered to him, but upon the invasion of his native State he again buckled on his sword and went to her defence, in a buggy, his only means of locomotion on the march. Such patriotism, I ween, was never before transcended in any age or country by any one.

Gen. Paul Quattlebaum had six sons and three daughters. The eldest son, Paul Jones Quattlebaum, was graduated at West Point and accepted a commission in the Ninth Infantry. While stationed at Fort Walla Walla. he resigned his commission and came South, which he served under various ranks up to Brigadier-General in the Confederate service. He died while in the United States Engineers' Department, about ten years ago. His, too, was a remarkable career, but it may not be germane to relate it here. Among the incl-dents of his life, however, I will mention one, that of the capture of a Federal officer and twenty-two men while he was reconneitring alone in front of his then First Texas Brigade. Coming unexpectedly upon this little detach-

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Afraid After Dark in Chicago.

The Chicago correspondents of several Berlin newspapers are telling some hair-raising stories which are likely to frighten many Germans out of visiting the World's Fair. The correspondent of the Berliner Lokal Anteiger, for instance, informed the readers of that journal two weeks ago that "almost daily a couple of masked rufflans push their way into a crowded restaurant or horse car and with drawn revolvers command 'Hands up!" After describing the brutality with which the gentlemen whose hands are up are treated by the bandits, the correspondent instructs his countrymen that unless they arm themselves with revolvers lossled for such emergencies they are likely to be plundered by highwaymen every time they venture from their lodgings. The correspondent adds that under no circumstances should a German visitor at the World's Fair waik the streets in the evening. He himself has not gone out after dark, he remarks, for many a month, and always goes to bed at 10 o clock so as to avoid the temptation to get a little fresh air in the streets at the risk of his life. After describing the brutality with which the

Elderly Principals in a Divorce Suit.

REDWOOD FALLS, March 10.—Preliminary papers have been served in what promises to be the most novel divorce suit on record. Julia Orcutt sues to secure a divorce from Georgo Orcutt, claiming eruel and inhumant reatment and adulters. The plaintiff is years old, and her husband 75.